

PATENT COOPERATION TREATY

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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

BERGGREN OY AB
P.O. Box 16
FIN-00101 Helsinki
FINLAND

D-80298 MUNICH 2004

13.09.2004

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing
(day/month/year)

10.09.2004

Applicant's or agent's file reference BP106601 /JJA	IMPORTANT NOTIFICATION	
International application No. PCT/FI 03/00445	International filing date (day/month/year) 05.06.2003	Priority date (day/month/year) 06.06.2002
Applicant METSO PAPER, INC. et al.		

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/B/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international
preliminary examining authority:



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PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference BP106601	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FI 03/00445	International filing date (day/month/year) 05.06.2003	Priority date (day/month/year) 06.06.2002
International Patent Classification (IPC) or both national classification and IPC D21G1/00		
Applicant METSO PAPER, INC. et al.		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 2 sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the opinion II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 14.10.2003	Date of completion of this report 10.09.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Bichi, M Telephone No. +49 89 2399-2055



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/FI 03/00445

I. Basis of the report

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-10 as originally filed

Claims, Numbers

1-7 received on 17.05.2004 with letter of 13.05.2004

Drawings, Sheets

1/2-2/2 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

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5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-7
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-7
Industrial applicability (IA)	Yes: Claims	1-7
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/FI 03/00445

- 1). Contrary to the arguments of the applicant D2 already discloses **a first, last and an intermediate roll which are fixedly attached to the frame** (see in particular figure 1 and col. 5, lines 53 to col. 6, line 18, whereby figure 10 and col. 6, lines 37-39 disclose an embodiment indeed having a piston rising the lower roll). The moving casings in D2 are the "roll jacket or shell 11", see col. 6, lines 3,4. It is pointed out that the wording of present claim 1 does not exclude at all that for example the "intermediate roll fixedly attached to the calender frame" can be further provided with internal loading elements: also the first and last rolls of the present application are "fixedly attached to the frame" but have indeed internal loading devices.
D2 further shows also lightening elements for lightening the auxiliary means or/and the weight of the other intermediate rolls. The feature related to the alternating metal/polymer coated rolls is well known in the field (see D1 and D5), so that this feature alone cannot involve an inventive step.
The subject-matter of claim 1 would thus appear to be essentially already known from D2, minor differing constructional features lying well within the usual capacities of the person skilled in the art and cannot be seen as involving an inventive step. Claim 1 therefore would not appear to meet the requirements of Article 33(3) PCT.
- 2). Moreover the subject-matter of claim 1 is not correctly drafted in the two-part form having regard to the closest prior art document D2. In particular all the features known from this document are not placed in the preamble of such a claim (see point 1 above).
- 3). Moreover claim 1 is still very unclear, thus not satisfying the requirements of Art. 6 PCT as follows:
 - the third paragraph of the claim ("every other roll etc.") is unclear.
 - in the fourth paragraph of claim 1 a discrepancy between description and the present passage is present (relating to the and/or: see description page 6, lines 15-18, page 7, lines 3-5; page 2, line 35). Moreover the expression "in which case" at the end of this paragraph would not appear to be appropriate. Probably it should be attached to the following paragraph as "whereby the roll nips in the set of rolls are closed as follows:..."
- 4). Present claim 3 is a repetition of claim 2. Apparently is an error: instead it should

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

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be drafted as the originally filed claim 5.

- 5). The dependent claims do not appear to contain any additional features which, in combination with the features of any claim to which they refer, involve an inventive step. The features herein disclosed would appear to be merely some of several constructional possibilities from which the skilled man would select, in accordance with circumstances, without the exercise of inventive skill. Hints thereto could furthermore easily be taken from the above mentioned documents D1-D5, all strictly related to the field.
- 6). The documents D2, D3 and D5 are not identified in the description and the relevant background art disclosed therein is not briefly discussed according to the requirements of Rule 5(a)(ii) PCT.
- 7). The description is not conformity with the new claims.

Claims

1. Arrangement for closing roll nips (N) in the multi-nip calender (1), in which the calender consists of one or several sets of rolls (2) attached to one or several frames (7) so that each set of rolls has at least three rolls, and at least the first roll (3; 31) and the last roll (3; 32) in each set of rolls is provided with equipment, with which their casing can be moved to the direction of the intermediate rolls (4) in the said set of rolls, **characterised in that**
 - the first roll (3; 31) and the last roll (3; 32) in each set of rolls are polymer-coated rolls, which are fixedly attached to the calender frame (7) and are provided with internal loading devices (31a, 32a),
 - every other roll in a set of rolls (2) is a polymer coated roll while every other roll in said set of rolls (2) is a metal roll,
 - one intermediate roll (4) in each set of rolls is fixedly attached to the calender frame, and in case more than one intermediate rolls (4) are present, the other intermediate rolls (4) are provided with lightening elements for lightening the auxiliary means related to the intermediate rolls in which case
 - the roll nips (N) in the set of rolls (2) is closed so that
 - the roll nips between the first roll (3; 31) and the fixedly attached intermediate roll (4) in the set of rolls (2) are closed by moving the casing (31b) of the first roll by means of an internal loading device (31a), in the direction parallel to the plane of the set of rolls towards the intermediate roll/rolls (4) and
 - the roll nip/nips between the last roll (3; 32) and the fixedly attached intermediate roll (4) are closed by moving the casing (32b) of the last roll by means of an internal loading device (32a) in the direction parallel to the plane of the set of rolls towards the intermediate roll/rolls (4).
2. Arrangement according to claim 1, **characterised in that** the first roll (3; 31) and/or the last roll (3; 32) are shoe rolls, in which one or several shoe elements (31a, 32a) are located under the casing of the roll, at the place of the roll nip (N; Na1, Na2), which can be loaded with liquid so that the casing (31b; 32b) of the said shoe roll moves in relation to the intermediate rolls in the set of rolls.
3. Arrangement according to one of the preceding claims, **characterised in that** the first roll (3; 31) and/or the last roll (3; 32) are shoe rolls, in which one or sev-

eral shoe elements (31a, 32a) are located under the casing of the roll, at the place of the roll nip (N; Na1, Na2), which can be loaded with liquid so that the casing (31b; 32b) of the said shoe roll moves in relation to the intermediate rolls in the set of rolls.

5 4. Arrangement according to any one of the previous claims, in which further the linear load distribution of the roll nips (N) in the set of rolls is controlled by an additional load brought to the first and/or last roll (3; 31, 32) in the set of rolls, characterised in that

- the additional load of the first roll (3; 31) in the set of rolls (2) is used for influencing the linear loads of the roll nips of the intermediate rolls between the attached intermediate roll and the last roll to a substantially lesser extent than the linear loads of the roll nips between the attached intermediate roll and the first roll, and
- the additional load of the last roll (3; 32) in the set of rolls (2) is used for influencing the linear loads of the roll nips of the intermediate rolls between the attached intermediate roll and the first roll to a substantially lesser extent than the linear loads of the roll nips between the attached intermediate roll and the last roll.

10 5. Arrangement according to claim 4, characterised in that the additional load is brought to the first and/or last roll (3; 31, 32) in the set of rolls using the internal loading elements of the said roll.

15 6. Arrangement according to claim 5, characterised in that the additional load is brought to the first and/or last roll (3; 31, 32) in the set of rolls (2) using a loading element outside the said roll, such as a roll outside the set of rolls.

20 7. Arrangement according to any of the preceding claims, characterized in that, the calender consists of two sets of rolls (2) attached to two different frames.